Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended): A method of determining a cause of one or more medical symptoms exhibited by a subject, the method comprising:

(a) obtaining one or more ~~a~~ biological ~~sample~~ samples from the subject;

(b) obtaining an array of different probes or different sets of probes, wherein each probe or set of probes selectively interacts with a target associated with a different known cause of the one or more medical symptoms, and wherein the array includes at least

(i) a first probe or set of first probes directed to a first target, wherein the first target comprises one or more markers for one or more infectious agents known to cause the one or more medical symptoms ~~selected from the group comprising viruses, bacteria, and fungi~~; and

(ii) a second probe or set of second probes directed to a second target, wherein the second target comprises one or more genetic markers of the subject or one or more biological or chemical molecules, all known to be a cause of the one or more medical symptoms ~~selected from the group comprising self-antigens, poisons, genetic disorders of the subject, therapeutic markers of the subject, and therapeutic markers of the target~~;

(c) applying the one or more biological ~~sample~~ samples to the probes in the array under conditions that enable all of the probes to selectively interact with any targets in the biological sample;

(d) detecting interactions; and

(e) analyzing interactions to determine a cause of the one or more medical symptoms.

2. (Original): The method of claim 1, wherein the array of probes or sets of probes is arranged on a planar substrate.

3. (Original): The method of claim 1, wherein each target is a nucleic acid, peptide, polypeptide, protein, antibody, antigen, small organic molecule, inorganic molecule, enzyme, or polysaccharide.

4. (Original): The method of claim 1, wherein the array of probes comprises nucleic acid probes and polypeptide probes.

5. (Original): The method of claim 1, wherein all of the probes in the array are polypeptides.

6. (Original): The method of claim 5, wherein the probes are antibodies, antigens, enzymes, zinc-finger binding proteins, minor-groove binders, transcriptional factors, combinations thereof, or chimeras thereof.

7. (Original): The method of claim 1, wherein the subject is a plant or animal.

8. (Original): The method of claim 1, wherein the subject is a human.

9. (Original): The method of claim 1, wherein the subject is deceased.

10. (Currently amended): The method of claim 1, wherein the array includes four or more different probes or sets of probes, wherein each probe or set of probes is directed to a different target, and wherein the different first and second targets comprise at least a marker for a virus, a marker for a bacteria, a biological molecule, and a genetic marker of the subject ~~selected from the group comprising fungi, bacteria, viruses, and poisons~~.

11. (Original): The method of claim 1, wherein the biological sample is a blood, cerebrospinal fluid, cell culture, urine, sweat, buccal swab, tissue biopsy, or aspiration sample.

12. (Original): The method of claim 2, wherein the probes are attached to the substrate using covalent or non-covalent bonds.

13. (Original): The method of claim 2, wherein the probes are attached to the substrate using amide or thiol bonds.

14. (Original): The method of claim 1, wherein the probes are expressed on the surface of genetically modified cells.

15. (Original): The method of claim 1, wherein a probe selectively interacts with a target by specifically binding to the target to form a complex.

16. (Original): The method of claim 1, wherein a first probe selectively interacts with a target associated with an infectious disease caused by a bacteria, virus, or fungus, and a second, different probe selectively interacts with a target associated with a genetic cause.

17. (Currently amended): The method of claim 1, wherein the array of probes <u>further</u> comprises probes that assay for the absence of a causative agent of one or more medical symptoms.

18 and 19. (Canceled)

20. (Original): A method of claim 1, wherein all of the probes selectively interact with their respective targets under the same conditions.

21. (Canceled)

22. (Currently amended): The method of claim ~~21~~ 49, wherein the therapeutic optimization factor is tolerance, intolerance, or susceptibility of the subject or ~~a causative~~ an infectious agent to a specific drug.

23. (Currently amended): The method of claim ~~21~~ 49, wherein the ~~second target~~ marker for ~~associated with~~ the therapeutic optimization factor is a gene in a pathogen that causes susceptibility, resistance, or an idiosyncratic reaction of the pathogen when exposed to a therapeutic agent.

24 to 34. (Cancelled)

35. (Withdrawn): A kit comprising different probes or different sets of probes, wherein each probe or set of probes selectively interacts with a target associated with a different known cause of the one or more medical symptoms, and wherein the kit includes two or more different probes or sets of probes directed to two or more different types of targets selected from the group comprising viruses, bacteria, fungi, self-antigens, poisons, genetic diseases of the subject, and therapeutic markers of the subject.

36. (Withdrawn): The kit of claim 35, wherein the kit includes five or more different probes or probe sets directed to five or more different types of targets.

37. (Withdrawn): The kit of claim 35, wherein the one or more medical symptoms comprise lower respiratory tract symptoms.

38. (Withdrawn): The kit of claim 35, wherein the one or more medical symptoms comprise recurrent infections.

39. (Withdrawn): The kit of claim 35, wherein the one or more medical symptoms comprise symptoms of sore throat.

40. (Canceled)

41. (Previously Presented): The method of claim 1, wherein the array of probes comprises nucleic acid probes.

42. (New): The method of claim 1, wherein all of the probes in the array are nucleic acid probes.

43. (New) The method of claim 1, wherein the array further comprises a third probe or set of third probes directed to a third target, wherein the third target comprises a marker for a therapeutic optimization factor of the subject, a marker for a therapeutic optimization factor of the first target, or both.

44. (New) The method of claim 1, wherein the biological or chemical molecule is a cancer marker, vascular marker, inflammatory marker, endocrine marker, metabolic marker, or autoimmune marker.

45. (New) The method of claim 1, wherein the biological or chemical molecule is an immunoglobulin, self-antigen, or antigen.

46. (New) The method of claim 1, wherein the biological or chemical molecule is a poison, drug, or a small organic or inorganic molecule.

47. (New) The method of claim 1, wherein the infectious agent is a virus, bacteria, fungus, or pathogenic plant.

48. (New) The method of claim 1, further comprising determining the susceptibility of the subject to a cause of the one or more medical symptoms; wherein the array further includes a third probe or set of third probes directed to a third target, wherein the third target comprises one or more genetic markers or proteins associated with the susceptibility of the subject to a cause of the one or more medical symptoms; and wherein analyzing further comprises analyzing interactions to determine the susceptibility of the subject to a cause of the one or more medical symptoms.

49. (New) The method of claim 1, further comprising assessing the suitability of one or more therapeutic agents to treat the cause of the one or more medical symptoms; wherein the array further includes a third probe or set of third probes directed to a third target, wherein the third target comprises one or more markers for one or more therapeutic optimization factors; and wherein analyzing further comprises analyzing interactions to determine the suitability of a therapeutic agent to treat a cause of the one or more symptoms.

50. (New) The method of claim 49, wherein the third target comprises one or more markers for one or more therapeutic optimization factors for (i) two or more of the first target, (ii) two or more of the second target, or (iii) one or more of each of the first and second targets.

51. (New) The method of claim 48, further comprising assessing the suitability of one or more therapeutic agents to treat the cause of the one or more medical symptoms; wherein the array further includes a fourth probe or set of fourth probes directed to a fourth target, wherein the fourth target comprises one or more markers for one or more therapeutic optimization factors; and wherein analyzing further comprises analyzing interactions to determine the suitability of a therapeutic agent to treat a cause of the one or more symptoms.